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February 2, 2022

Hopedale Planning Board
78 Hopedale Street
P.O. Box 7
Hopedale, MA 01747

Subject: 75 Plain Street
Site Plan Review

Dear Planning Board Members:

We received the following documents in our office via e-mail on January 17, 2022 and in hard-copy format on January 18, 2022:

- Correspondence from Highpoint Engineering, Inc. to Hopedale Planning Board dated January 14, 2022, RE: 75 – 131 Plain Street LLC – Application for Site Plan Approval – 75 Plain Street, Response to Peer Review Comments.

- Correspondence from Highpoint Engineering, Inc. to Graves Engineering, Inc. dated January 14, 2022, RE: 75 Plain Street, Hopedale, MA, Site Plan Review Application, Response to Peer Review Comments.

- Plans entitled Proposed Warehouse Building, 75 Plain Street, Hopedale, Massachusetts, Definitive Site Development Plans dated September 1, 2021 and revised January 14, 2022, prepared by Highpoint Engineering, Inc. for 75 – 131 Plain Street, LLC. (54 sheets)

- Document entitled Long-Term Operation and Maintenance Plan, Proposed Distribution Facility, 75 Plain Street, Hopedale, MA dated August 25, 2021 and revised January 14, 2022, prepared by Highpoint Engineering, Inc.

Graves Engineering, Inc. (GEI) has been requested to review the plans and supporting materials for compliance with Section 8: Off -Street parking Area Requirements, Section 17:Ground Water Protection District and Section 18: Site Plan Review of the Zoning By-laws, Town of Hopedale, Massachusetts, Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook, and standard engineer practices. As part of our initial review GEI performed a reconnaissance site visit on November 9, 2021.

This letter is a follow-up to our previous review letter dated December 14, 2021. For clarity, comments from our previous letters are *italicized* and our comments to the design engineer's responses are depicted in **bold**. Previous comment numbering has been maintained.

Our comments follow:

Zoning By-Law

1. *The number of individuals present during the largest shift needs to be included on the plans to confirm compliance with the number of parking spaces requirement set in the Section 8 Table of Requirements.*

Acknowledged. Sheet G101 was revised to include Note 3 indicating that 300 employees would be present, presumably for the largest shift, with no more than 360 employees expected to be working at any given time. GEI interpreted the 360-employee count to represent an overlap of employees during a shift change. The plans propose 300 parking spaces, which is equivalent to 1.2 employees per parking space for the 360-employee count. GEI has no issues with the proposed number of parking spaces.

2. *GEI has no issues relative to compliance with Section 17.6(c)(6): Use rendering impervious more than (15) percent or two thousand five hundred (2,500) square feet of any lot. The plans propose lined forebays for pre-treatment of pavement runoff, and open infiltration basins (for pavement runoff) and subsurface infiltration systems (generally for roof runoff) for the attenuation of peak runoff rates and for the infiltration of stormwater. GEI gleaned information from the hydrology computations; the information indicates that the proposed project will result in a reduction of surface water runoff volume, hence an increase in on-site infiltration, of 2.7 acre-feet or 76% during a two-year storm event and 8.1 acre-feet or 72% during a ten-year storm event. Long-term maintenance of the stormwater systems, site maintenance and site housekeeping will be required to address stormwater quality after the construction phase of the project. Appendix D of the Stormwater Management Analysis addresses construction-phase and long-term operation and maintenance requirements. (§17.6(b)(6))*
   No further comment necessary.

3. *The site plans need to specify the datum used. (§18.3(b))*
   Acknowledged. The plans were revised to include a note on the north arrow stating the datum is NAD83.

4. *All traffic signs and their construction details need to be included on the site plans. (§18.3(b)(5))*
   Acknowledged. Sheets C401 through C406 were revised to include traffic sign locations, and Sheet C804 was revised to include the Typical Sign Detail.

5. *Any proposed exterior building lighting and construction details of any proposed lighting need to be included on the site plans. (§18.3(b)(5))*
   Acknowledged. The plan set was revised to include a Site Lighting Plan that shows proposed lighting locations and luminaire model numbers.

6. *The sizes of plants to be used in site landscaping (exclusive of the wetland replication area) need to be included on the site plans. (§18.3(b)(6))*
   Acknowledged. The plan set was revised to include Sheet C708, which contains the Site Plant List detailing the quantity, species, and size of the plants.

7. *The underground and overhead electric utilities, as well as the generator and transformer pads at the northeast corner of the proposed building need to be included on Sheet C500. (§18.3(b)(7))*
   Acknowledged. Sheet C500 was revised to include the electric utilities, generator, and transformer pads.

8. *The volumes of earth material to be removed needs to be included on the site plans. (§18.3(b)(9))*
   Acknowledged. Sheet C400 was revised to include a note concerning the earthwork volume. It was estimated that 15,000 cubic yards of earth material will be imported to

the site. The estimated volume of cut/fill is to be finalized after completion of geotechnical studies to determine the suitability of reusing onsite fill piles.

9. *The coordinate system used needs to be included on the site plans. (§18.3(b)(11))*
   Acknowledged. The plans were revised to include a note on the north arrow stating the coordinate system is Massachusetts State Plane.

Hydrology & Stormwater Management Review

10. *GEI Reviewed the hydrology computations and found them to be in order except as noted in the following comment.*
    The hydrology computations are in order.

11. *The hydrology calculations for the pipe in IB-2 show that the pipe has a diameter of 15 inches, however Sheet C401 shows the pipe has a diameter of 12 inches. The information needs to be consistent.*
    Acknowledged. Sheet C402 was revised to show the diameter of the pipe as 15 inches.

12. *The top of stone, top of pipe, and bottom of pipe elevations for UPS 3 are not consistent between the construction detail and Sheet C402. The information needs to be consistent and consistent with the hydrology computations.*
    Acknowledged. Sheet C402 was revised to show elevations consistent with those in the construction detail and hydrology computations.

13. *Compliance with the MassDEP Stormwater Standards and Stormwater Handbook is reasonable provided that the following comment is addressed.*
    Compliance with the MassDEP Stormwater Standards and Stormwater Handbook is reasonable.

14. *To prevent scour at stormwater discharge points, on Sheets C401 – C406 riprap aprons need to be added at the flared end sections and the applicable text for these flared end sections needs to be darkened in the "Flared End Section with Riprap" construction detail on Sheet C802.*
    Acknowledged. Sheets C401 through C406 were revised to show riprap aprons at the flared end sections and the text on the construction detail was darkened where necessary.

15. *If the plans are revised for any other reason, then it would be helpful if the soil test pit locations were added to the grading and drainage sheets (Sheets C401 – C406).*
    Acknowledged. Sheets C401 through C406 were revised to include soil testing pit locations.

General Engineering Comments

16. *The symbol used for proposed site lighting needs to be included in the legends of Sheets C301 and C501.*
    Acknowledged. Sheets C301 and C501 were revised to include the Proposed Light Pole symbol in the legend.

17. *On Sheet C304, traffic direction arrows and a stop line need to be added to the northern end of the "dedicated vehicular access" on the northwest side of the project site.*

Acknowledged. Sheet C304 was revised to include a stop line, stop sign, directional arrows, and directional signs. "Truck Traffic Only" signs were added at the western side of the intersection.

18. *Relative to Sheet C306, GEI defers to the traffic engineer and/or traffic peer reviewer whether the four-way intersection within the site needs signage and pavement marking to define which approaches have the right of way.*
Acknowledged. The southbound and northbound approaches to the intersection were revised to be under stop control.

19. *Sheet C505 needs to include the symbols for SMH 1 and E-One DH272 Pump Station.*
Acknowledged. Sheet C505 was revised to include the SMH 1 and E-One DH272 Pump Station symbols.

20. *The existing elevations need to be labeled on Sheets C600 and C601.*
Acknowledged. Sheets C600 and C601 were revised to include existing elevation labels.

21. *On Sheet C602 along the proposed force main, the sewer manhole at Station 24+41.18 on the site plans states the invert elevation for the proposed force main is 296.0, however this elevation is listed as 295.0 on the road profile. The information needs to be consistent.*
Acknowledged. Sheet C602 was revised to list the force main invert elevation as 295.00 feet on the plan view. GEI understands that the pipe invert configuration within the manhole will be addressed with the Hopedale Sewer Department.

22. *On Sheet C801, the Water, Drain and Sewer Trench construction detail needs to clarify what the 12-inch label is measuring.*
The construction detail was revised to a Water Trench detail and the 12-inch label was deleted. However, construction details now need to be provided for the sewer and drainage pipe trenches.

23. *On Sheet C802, the Typical Water – Sewer Crossing construction detail references a note, however no note was provided.*
Acknowledged. The Typical Water – Sewer Crossing construction detail on Sheet C802 was revised to exclude references to a note.

24. *On Sheet C803, the construction detail for Manhole (OCS B) does not appear to apply to the project. If the construction detail is for the outlet control structure at Infiltration Basin 2, then the construction detail needs to be updated.*
Sheet C803 was revised to update the construction detail for Manhole (OCS B) to the Outlet Control Manhole (IB 2) construction detail. However, the construction detail shows the manhole is round with a five-foot diameter, has a 24-inch outlet pipe, and has a 24-inch diameter inlet pipe as well as a 3-inch diameter inlet pipe. Sheet C401 shows the manhole as a four-foot-by-four-foot square with a 15-inch outlet pipe and no inlet pipes. The information needs to be consistent.

25. *On Sheet C803, the top of berm elevation for IB 3 is listed as 238.5, however Sheet C402 shows this elevation as 238.0.*
Acknowledged. Sheet C803 was revised to list the top of berm elevation for IB 3 as 238.0.

26. *On Sheet C803, the top of berm elevation for IB 6 is listed as 237.9, however Sheet C404 shows this elevation as 238.7.*
Acknowledged. The design engineer responded that the spot elevation 237.9 at the southwestern side of the basin was used to determine the lowest top of berm elevation.

27. *Sheet C804 includes a construction detail for bollards. The locations of the proposed bollards should be identified on the plan view sheets.*
Acknowledged. Sheet C804 was revised to include a Concrete Filled Steel Pipe Bollard construction detail. Additionally, Sheets C305, C306, C405, C406, C505, C506, C705, and C706 were revised to include bollards around the propane tank, generator, and transformer pads.

28. *Signs designating whether a road is trailer or passenger vehicle accessible need to be placed throughout the project site to alert drivers of vehicle restrictions.*
Acknowledged. Sheets C304 and C306 were revised to include signs stating "truck traffic only" and "car parking".

29. *On Sheet C304, the snow storage areas at the exit from the western passenger vehicle parking lot need to be relocated to avoid blocking sight distances for vehicles exiting the parking lot.*
Acknowledged. The limit of the snow storage area was moved away from the driveway edge.

30. *On Sheet C305, the snow storage areas in the swales north of the north parking lot, to the west of the western parking lot, and along the entrance road north of Infiltration Basin 1 need to be relocated to avoid impeding stormwater flow.*
Acknowledged. Sheet C305 was revised to relocate the snow storage areas to south of IB 7. The snow storage areas were spaced apart to allow stormwater to flow to the swale upgradient of Forebay 6B.

General Comments

31. *GEI did not receive a copy of Sheets C100 and C101.*
Acknowledged. Sheets C100 and C101 were included in the revised plan set.

32. *The existing contour elevations need to be labeled on Sheets C401 through C406.*
Acknowledged. The elevation contour labels have been added to Sheets C401 through C406.

33. *On Sheets G101 and G102 the text in the northeast corner of site parking is illegible.*
Acknowledged. Sheet G101 was revised to legibly show the text and Sheet C102 was revised to remove the text.

34. *On Sheet C203, the arrow from the label reading 100' Buffer Zone (TYP.) needs to be adjusted to point at the 100-foot buffer zone line.*
Acknowledged. Sheet C203 was revised to point the label arrow at the 100-foot buffer zone line.

35. *On Sheet C401 there is a straw wattle and limit of work label that doesn't point to any features on this plan sheet. The labels should be eliminated from this plan sheet.*

Acknowledged. Sheet C401 was revised to exclude the straw wattle and limit of work label.

36. *On Sheet C402, Forebay 3B is mislabeled as Forebay 3A.*
Acknowledged. Sheet C402 was revised to correctly label Forebay 3B.

37. *The matchline labels on Sheet C405 referencing Sheets C401, C403, and C405 need to be corrected.*
Acknowledged. The matchline labels on Sheet C405 were revised to reference the correct sheets.

38. *Sheet C500 has a bar scale of 1" = 40', however the plans scale to 1" = 100'.*
Acknowledged. Sheet C500 was revised to include a bar scale of 1" = 100'.

39. *GEI understands the water and sewer utility providers will review their respective utilities.*
No further comment necessary.

40. *GEI understands the Hopedale Fire Department and the water utility provider will review the proposed fire hydrant locations.*
No further comment necessary.

41. *GEI did not review for compliance with the Wetlands Protection Act Regulations (310 CMR 10.00)*
No further comment necessary.

Additional Comments February 2, 2022

42. **On Sheet C803, in the Forebay and Infiltration Basin Elevation Summary table the top of berm elevation for Infiltration Basin IB 3 was revised from 238.5 feet to 238.0 feet; the basin will now only have 0.5 feet of freeboard. Whereas the MassDEP Stormwater Handbook requires one foot of freeboard, the former elevation of 238.5 feet needs to be reinstated.**

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Graves Engineering, Inc.

Jeffrey M. Walsh, P.E.
Principal

cc: MDM Transportation Consultants, Inc.
Douglas Hartnett, P.E.; Highpoint Engineering, Inc.
Joseph Antonellis, Esq.; Mayer, Antonellis, Jachowicz & Haranas, LLP